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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,088	08/04/2003	Joseph Michael Hoefler	A01399	6722

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EXAMINER

THEXTON, MATTHEW

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/634,088

Applicant(s)

HOEFLER, JOSEPH MICHAEL

Examiner

Matthew A. Thexton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 8-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>three sheets</u> . | 6) <input type="checkbox"/> Other: ____  |

*HC*

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-7, drawn to dispersion mixtures and methods of preparing same, classified in class 523 and 524, various subclasses.
- II. Claims 8-10, drawn to methods of treating tanned leather, classified in class 252, subclass 8.57.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the products of Group I can be used in other methods such as to lower gloss of coatings on paper, to provide bulk in polymers, to provide reinforcing in polymers.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Kim Jessum 215-592-3689 on 2005 September 1 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-7. Affirmation of this election must be made by applicant in replying to

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this Office action. Claims 8-10 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Information Disclosure Statement***

The information disclosure statements (IDS) submitted on 2003 November 6 and 2004 May 14 have been considered by the examiner.

Ruppert (US 4763051), cited on form PTO/ISB/08A filed 2003 November 6 is irrelevant to the subject matter of this Application.

### ***Claims Version***

The claims as submitted have been examined.

### ***Claims Analysis***

Claim 1 is directed to an aqueous dispersion mixture comprising:

- a) 1-30 weight % silica particles;
- b) 0.01 to 10 weight % reacted aminosilane compound attached to the silica particles, based on the weight of the silica particles;
- c) 5-25 weight % anionic polymeric dispersing agent, based on weight of the silica particles; and
- d) aqueous medium.

Dependent claim 2 narrows and adds components as follows: a) 1-10 weight %; and e) 1-25 weight % polymer particles.

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Dependent claim 3 limits silica particles to average diameter of 1-10 microns.

Independent claim 4 provides for a process of making a dispersion comprising:

- a) providing aqueous medium;
- b) admixing anionic polymeric dispersing agent and aminosilane compound;
- c) admixing silica particles; and
- d) reacting or allowing to react said aminosilane compound with said silica particles.

Claim 5 depends from claim 4 and requires the proportions of claim 1.

Claim 6 depends from claim 4 and further requires admixing polymer particles.

Claim 7 depends from claim 4 and further limits silica particles to average diameter of 1-10 microns.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The basis for determining the weight % of polymer particles is not stated, i.e., 'based on the weight of the aqueous silica dispersion.'

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**35 USC § 102 and 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections***

Claims 1, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiratsuchi et al. (US 5856379-A).

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The present claims are broadly discussed hereinabove in the section **Claims Analysis** which is incorporated by reference.

The reference '379 discloses aqueous dispersions of silica particles having reacted thereto a silane, such as aminopropyltriethoxy-silane (column 12, lines 25-26) and other aminosilane (column 5, line 65 to column 6, line 1), which is preformed in the presence of a dispersing agent such as polyacrylic acid (column 8, lines 51-53). The proportions disclosed are encompassed by Applicant's claim limitations. Although '379 further reacts the treated silica with monomer to form a core shell type particle, Applicant's claims encompass such embodiments.

'379 discloses the necessity of the dispersant (column 6, lines 31-56). It would have been obvious to one of ordinary skill in the art at the time of the invention to have employed the steps of claims 4 and 5 since the disclosure of '379 is to the necessity that the dispersant be present when silica and silane are brought together, regardless of the order in which that occurs.

Claims 1, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenwood et al. (US 2004/0097600-A1) taken with Dorn (US 4927749).

The present claims are broadly discussed hereinabove in the section **Claims Analysis** which is incorporated by reference.

The reference '600 discloses aqueous dispersions of silica particles having reacted thereto a silane, such as aminosilanes (paragraph 0022 references US '749, which discloses aminosilanes, column 9 to column 11, line 22) combined with organic

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binder such as poly(acrylic acids) (paragraph 0023). The proportions disclosed are encompassed by Applicant's claim limitations.

It would have been obvious to one of ordinary skill in the art at the time of the invention to follow the plain suggestions of '600 to employ aminosilanes and polyacrylic acid to make the suggested dispersions, thus arriving at subject matter encompassed by Applicant's claims.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Miyosawa (JP 53-11989-A, as understood from JPO abstract). An English language translation of this document has been requested and will be forwarded as soon as possible.

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The reference '989 (JPO abstract) discloses film forming mixture comprising silica, water dispersing acrylic copolymer, and di- or tri-alkoxy silane. At page 12 of the source document, aminosilanes are evident in the text.

In the event the reference is deemed to be of not sufficient specificity to sustain a conclusion of anticipation, then it is concluded that it would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the aminosilane as plainly suggested and employed proportions for coating substantially as Applicant has claimed. It would have been obvious to one of ordinary skill in the art at the time of the



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invention to have employed the steps of claims 4 -7 because the order of addition is not shown to be critical.

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mihoya et al. (US 5719206-A).

The present claims are broadly discussed hereinabove in the section **Claims Analysis** which is incorporated by reference.

The reference '206 discloses aqueous dispersions of silica particles (column 3, line 4) having reacted thereto a silane, such as aminopropyltriethoxy-silane (column 2, lines 43-67), which is followed by reaction with an aqueous resin such as acrylic resins (column 3, lines 33-49) and other carboxyl group containing resins to form a well dispersed mixture suitable for coating a variety of substrates including leather (column 4, lines 26-34). The proportions disclosed are encompassed by Applicant's claim limitations (column 3, lines 14-20 and column 4, lines 20-25). The methods disclosed are distinct from Applicant's claims 4-7 (column 3, lines 21-32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to follow the plain suggestions of '206 to employ aminosilanes and polyacrylic acid to make the suggested dispersions, thus arriving at subject matter encompassed by Applicant's claims.

***Citation of Pertinent Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wesp (US 3649582), cited by Applicant, discloses similar mixtures wherein the anionic polymeric dispersant is absent but an anionic thermoplastic latex copolymer is present.

Emmons et al. (US 5663224), cited by Applicant, discloses use of aminosilane treated silica provides advantages relative to anionic polymeric dispersed silica. The conclusion that it would have been prima facie obvious to one of ordinary skill in the art to employ both means of handling silica simultaneously is rebutted by Applicant's showing.


***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Thexton whose telephone number is 571-272-1125. The examiner can normally be reached on Monday-Friday, 9:30 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan S. Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Matthew A. Thexton  
Primary Examiner  
Art Unit 1714